

Contents

Acknowledgments vii

Introducing the Book

Introduction	1
Purpose of the Book	3
Demarcation of the Book	4
Structure of the Book	5
Conclusion	6

I

THE STATE OF THE WORLD

Our Past Defining Our Present

Introduction	9
Conquering Our Dynamic World	10
Social Change Over Millennia	17
The Invention of Risk	24
Conclusion	27

3. Our Sustainability Challenges

Introduction	29
Our Challenges as Discussed on World Conferences	29
Our Boundaries for Sustainability	50
Conclusion	56

4. Our Disturbances, Disruptions and Disasters in a Dynamic World

Introduction	57
Our Symptomatic Events	58
Our Processes of Change	102
Conclusion	119

II

APPROACHING THE WORLD

Conceptual Frames for Risk, Resilience and Sustainable Development

Introduction	123
Philosophical Assumptions about Our World	123
Development, Sustainability and Risk	129
Managing Risk for Sustainable Development	134
The Concept of Resilience	143
Conclusion	147

6. Resilience—From Panacean to Pragmatic

Introduction	149
Inherent Restrictions for Measuring Resilience	150
Operationalizing Resilience	152
Challenges for Developing Resilience	165
Linking Resilience to Other Frameworks	173
Conclusion	175

7. The World as Human–Environment Systems

Introduction	177
Why Human–Environment Systems?	178
Systems Approaches and Concepts	179
Constructing Human–Environment Systems	187
Conclusion	193

III

CHANGING THE WORLD

8. Science and Change

Introduction	197
The Sciences of the Complementary	198
Two Scientific Processes	199
Reliability, Validity and Workability	201
Limitations of Science for Change	203
Conclusion	205

9. Developing Capacities for Resilience

Introduction	207
Four Levels of Capacity	208
Capacity Development for Resilience	210
Central "Ships" in Capacity Development	228
Conclusion	242

10. Social Change for a Resilient Society

Introduction	245
Describing Social Change	246
Prescribing Social Change	250
Conclusion	254

11. Concluding Remarks

Introduction	257
The State of the World	257
Approaching the World	259
Changing the World	261
Conclusion	263

References	265
Index	291